

PEDESTRIANS/BIKES/TRAILS

Activity Title:

Implement City-Wide Pedestrian Standards

Activity Purpose and Overview:

The purpose of this MMT recommendation is to: (1) further the evolution and implementation of a “Pedestrian Standards Program” as called for in the adopted City-County Comprehensive Plan; and; (2) support the efforts of the City’s Public Works and Utilities Department to advance pedestrian safety.

These efforts should build upon the common sense idea stated in the Comprehensive Plan that “Walking is an essential part of our daily activities, whether it be trips to work, shop, or play.”



Modifying our existing pedestrian standards must include a carefully crafted, community-based involvement effort. The standards need to reflect the community’s mobility values while providing a solid and credible foundation for evolving a pedestrian friendly environment over the long term.

Pedestrian Standards should respect the unique needs of our various demographic groups, meet Federal mobility requirements, and distinguish between the unique circumstances of our older versus newer areas and between residential neighborhoods versus commercial, institutional, and industrial districts.

The Comprehensive Plan also notes that the these Standards should identify key destinations and plan for pedestrian facilities to and from these locations, including schools, parks, and activity centers.

Activity Description:

At some point during each day, we are all pedestrians. Many of us may walk greater distances than others during the course of our routine activities, and may choose to walk for a variety of purposes. We may walk from our home to the bus stop; from the parking lot to our office; or take the family dog for a leisurely evening walk through the neighborhood.

“Pedestrians” are commonly considered to be anyone on foot or any person with a disability traveling in a wheelchair or other mobility device designed to help the individual overcome a mobility disability. The facilities used by pedestrians can vary greatly – traditional sidewalks, multi-purpose pathways, courtyards where only pedestrians are allowed, street crossings, or across parking lots or within parking garages just to name a few. The important point to note is that the physical environments within which pedestrian movements occur are many and varied, and all need to be accounted for in considering pedestrian needs and safety.

Respect and Pursue Comprehensive Plan Strategies

As noted earlier, the most recently adopted City-County Comprehensive Plan makes a strong reference to the need to establish and follow locally based “Pedestrian Standards.” In part, the Comprehensive Plan calls for the following:

- “Develop minimum pedestrian standards for all new public works projects, including new roadways and reconstruction of existing roadways. These standards should include street crossing treatment, sidewalk design and landscaping.
- Develop minimum pedestrian standards for private developments to provide pedestrian facilities connecting key destinations such as schools, parks, trails, and activity centers.
- Select a short-term public works demonstration project embracing best practices pedestrian design standards.
- Develop a city-wide database of pedestrian facilities and crosswalks. Develop a dedicated funding mechanism and prioritization process for implementing improvements.

- The planning process is to develop standards that define pedestrian level of service concepts.”

Refine Pedestrian Goals, Principles, and Policies

As implementation of the “Pedestrian Standards Program” is pursued, one of the first steps in the process should be the further clarification of the goals, principles, and policies of this endeavor. This clarification should be done in a manner that integrates the pedestrian vision established in the adopted City-County Comprehensive Plan and that seeks meaningful community involvement.



While this effort will involve further work by staff and the community at large, the type of “goals, principles, and policies” to generally be considered include:



- ◆ The City should work to ensure a high quality pedestrian environment recognizing that pedestrian mobility is a primary mode of travel and forms the basis for all other modes.
- ◆ Pedestrian Standards should reflect “Quality of Service Factors” involving continuity, security, visual interest, directness, and street crossings, as called for in the City-County Comprehensive Plan.
- ◆ The community acknowledges the importance of the “sidewalk system” to the overall mobility and travel requirements of all its residents and of the need to repair, maintain, and expand the quality of that system.
- ◆ The community’s pedestrian network should be carefully integrated with and work to support other transportation modes.
- ◆ Educational programs to improve pedestrian safety should be pursued.
- ◆ Pedestrian facilities must be considered at the very inception of the transportation and development projects and incorporated into their overall design.

- ◆ Pedestrian safety should be a fundamental consideration of the planning process and efforts make to reduce the number of crashes involving pedestrians.
- ◆ Sound and effective pedestrian planning should be a common basis at all levels of government and aggressively coordinated through the established “3-C Transportation Planing Process.”
- ◆ Pedestrian standards need to address and affirm pedestrians with the mobility special requirements.
- ◆ Procedures and processes should be developed and adopted for evaluating the on-going performance of the pedestrian system.
- ◆ Establishing a consistent and sustainable funding basis for the pedestrian system should be sought and adopted in the near term.

These are offered merely as a beginning point for the formulation of a set of goals, principles, and polices for Lincoln area Pedestrian Standards. Additional work by the community and staff is needed to further craft a final set of such programmatic objectives.

Current City of Lincoln Pedestrian Safety Programs

The City of Lincoln currently operates a coordinated program to promote pedestrian safety. These efforts are administrated in large part by the City’s Public Works and Utilities Department. These activities include:

- **School Crossing Protection Program** – The engineering component of this program consists of marked and signed school crossings, traffic signalized school crossings, 25 mph School Speed Zones and signing adjacent to school properties which provides for safe parent pick-up and drop-off of students around the school. School Crossing signs are being changed to the “Florescent Yellow/Green” color, which is intended to draw more attention to the school crossing.

All arterial street crossings are gradually being remarked utilizing a more visible style of crosswalk marking called a “Continental Style Crosswalk.” These “zebra striped” crosswalks are also more visible to the driver. L.E.D. lights are being utilized at all signalized School

Crossings. These lights are brighter, which again, aids in drawing attention to the crossing.

The Department has also begun using “Countdown Pedestrian Heads”. These Pedestrian Heads (Walk, Flashing Don’t Walk and Don’t Walk), not only utilize L.E.D. lights making them more visible, but also add a countdown timer along side the “Flashing Hand”. This timer informs the pedestrian how much time he/she has to complete the crossing of the street. The use of these is limited at present, however, this is an available tool when it’s deemed necessary.

Another safety is used at locations where signalized school crossings are directly adjacent to an intersection. At these locations, whenever a pedestrian pushes the Pedestrian Push Button, lighted “No Left Turn” and “No Right Turn” signs are illuminated. This prohibits vehicles from turning across the pedestrian crossing when there are pedestrians present, again reducing the conflicts between vehicles and pedestrians.

Also occasionally deployed are “Portable Speed Displays”. These are electronic message boards equipped with Radar which are set up to show passing motorists the speed at which they are traveling. These are typically being used around School Sites where pedestrians are crossing the arterial street on a regular basis. Typically, we will deploy these for a couple weeks near the beginning of the school year and again in the Spring.

The “Education” portion of this program includes providing “Recommended Safe Walking Route” maps, “Voluntary One-Way Parent Pick-Up & Drop-Off” maps, as well as printed “Safety Tips” for pedestrians and motorists. This information is available on the City’s website.

An annual event which is intended to promote use of this information, is the “Safe Walk to School Night”. Typically this event is held the week prior to the start of school in August. Speed Zone Flashers are activated and parents are encouraged to walk with their students to their respective schools, following one of the “Safe Walking Routes”. This event typically coincides with open houses for all Public Elementary Schools. The “Enforcement” portion of this program includes the Lincoln Police Department enforcing the 25 mph School Speed Zones

not only periodically throughout the school year, but also during special 2 to 4 week details which concentrate on these speed zones City-Wide. These are typically conducted sometime in the fall, shortly after school has opened and again in the spring, prior to and during the time of the year when kids begin walking because of warmer weather.

- **Sidewalks** – Installation of sidewalks is another important part of the City’s pedestrian safety program. There are three primary ways the City ensure the installation of new sidewalks. First, all new subdivisions being are required to have sidewalks built prior to being issued Occupancy Permits. The second is the ability of the City to order the construction of new sidewalks where, for one reason or another, there are gaps in the existing sidewalk system. Such sidewalks are either ordered constructed by the Mayor or the City Council (at the recommendation of Public Works) and are installed by the adjacent property owners or assessed to the adjacent property owners if the City builds them. The final method is the construction of new sidewalks as part of roadway projects.

Also, ss of approximately April of 2003, all new sidewalk ramps also include “Truncated Domes” which are mandated by Federal Americans with Disabilities Act standards.

- **City Pedestrian/Bicycle Trails** - The City’s network of pedestrian and bicycle trails also supports pedestrian safety goals. Parks and Recreation and Planning Departments are lead agencies when it comes to planning for and funding new trails in the City. This activity is further supported by the Public Works’s Division of Traffic Operations who is responsible for installing/updating “Bike Route” signs on existing and new on-street Bike Routes.

- **Downtown Lincoln** – Lincoln’s Central Business District (CBD) witnesses the highest concentration of pedestrians in the City. Traffic signals in this area are setup to allow pedestrians to cross streets at regular intervals. Most Downtown streets are also “one-way streets” providing for less pedestrian/vehicle conflicts and ultimately makes for safer crossings. In addition, prohibiting turns on red lights at selected locations in the Downtown, as well as at other locations across the City where there is a potential for pedestrian and vehicle conflicts, provide for safer crossings.

- **University of Nebraska-Lincoln** – The University of Nebraska-Lincoln’s main campus is another high volume pedestrian generator. One intersection adjacent to the University actually has about as many pedestrians traversing through it as vehicles. Because of this situation, a special type of signal operation is in use which basically gives pedestrians their own traffic signal phase. The “scramble system” as it is termed allows for vehicles to travel through the intersection during two phases and then stops all vehicles, prohibiting all turns, and allowing pedestrians their own time to cross. This requires that at least one person push the “Pedestrian Push Button,” but once pushed, all traffic stops for pedestrians. This type of operation will not work at locations where large volumes of vehicular traffic must be moved.
- **Traffic Signal Timing** – When determining the timing for all traffic signals, the very first consideration is given to the amount of time needed for a pedestrian to cross the street at any of the legs of the intersection. At the majority of the intersections in Lincoln, a safe walking speed of 4 feet/second is used in calculating the amount of time needed. At locations where there are concentrations of young school children crossing or where the intersection may be adjacent to a generator of elderly pedestrians (Senior Center, Retirement Home, etc.), the safe walking speed used is reduced to 3.5 feet/second. This allows more time for these slower pedestrians to comfortably cross the street.
- **Pedestrian Present Signals** – Another application is the use of “Prepare To Stop When Flashing” signs and flashing lights at signalized pedestrian crossing locations. These flashing lights are again activated when a pedestrian pushes the Pedestrian Push Button. The lights flash and the signs warn the motorist to be prepared to stop for a red light and a pedestrian crossing the street.
- **Pedestrian Crossing Signs** – One final Pedestrian Safety enhancement has been the change of all “Pedestrian Crossing” signs to the new Florescent yellow/green color. This is similar to the change being done with the “School Crossing” signs, but is completed at all areas where concentrations of pedestrians (mostly unrelated to schools) needs to be accentuated.

Standards to Better Manage Pedestrian System

City regulations and ordinances should be modified to enhance how the community manages its pedestrian system. While these concepts will need to be further refined, some of the proposed approaches include the following:

Connectivity Improvements Through Site Design

Pedestrians need to be able to move directly, safely, and conveniently between activity areas. This principle of “connectivity” is central to a well functioning pedestrian system. To achieve this, “pedestrian standards” should be considered for incorporation into the City’s zoning ordinance and design standards that address such issues as the following:

- ▲ Ensure City’s ability to require direct pedestrian connection within subdivisions, commercial and industrial districts, and institutional environments. This can be accomplished through strategically placed sidewalks, walkways, or other paths not associated with a street.
- ▲ Seek the integration of certain pedestrian-based design elements in retail, office, industrial, institutional, and apartment developments such as: wider front sidewalks; direct pedestrian ways to entrances, transit stops, and adjacent streets; clearly defined pedestrian crossings at major building and store fronts; canopies in front of buildings to protect pedestrians during inclement weather; on-site amenities such as benches and pedestrian lighting; and pedestrian plazas.
- ▲ Where public safety may be an issue, seek to provide appropriate design solutions such as pedestrian overpasses, underpasses, or traffic signalization.
- ▲ Pursue standards for wider sidewalks where appropriate because of safety or demand considerations.

Pedestrian System Studies

It is relatively common in Lincoln to require significant commercial development proposals to submit traffic impact studies. These studies are used by

engineers and planners in determining specific roadway improvements (such as turn lanes, traffic signals, access points, etc.) generated by the proposed development. These studies become the basis for identify needed capital improvements to the internal and surrounding street system to ensure it functions safely and properly.

At the present time, the City only has a limited requirement for the submission of similar pedestrian analyses. It is thus recommended by the MMT Task Force that the City's present development regulations be modified and regularly implement to provide for the evaluation of a proposed development's "pedestrian system"—be the proposal commercial, residential, industrial, public, or mixed use in character. A pedestrian system analysis could thus be called for by the Planning Director or Public Works and Utilities Director as part of the developer's normal written submittal.

Guidelines for the submission of this analysis should be developed by staff – in consultation with the private sector and general community – and then adopted by the City Council and Mayor. These guidelines should address the basic pedestrian principles stated in the approved City-County

Comprehensive Plan – namely, continuity, security, visual interest, directness, and street crossings. This analysis would thus allow for a fuller understanding of

the proposed development's impact on the total transportation system and of the actions needed to ensure its proper operation.



Design Elements and Accommodations

Work by staff and the community should continue to update and refine the City's regulations regarding pedestrian design elements. These element are intended to implement the Comprehensive Plan's pedestrian "level of service factors" relating to: (1) continuity; (2) security; (3) visual interest; (4) directness; and, (5) street crossings. Enhancements in City standards should address the following (while ensuring compliance with ADA regulations):

CONTINUITY

Link activity centers with a continuous pedestrian network.

- Provide a connected and understandable pedestrian network by offering the continuous sidewalks on both sides of the street. This system should be installed as part of the initial development.
- Use pedestrian-scaled furnishings, signs, landscaping, and other amenities to unify pedestrian networks and corridors to provide continuity to the user.
- Offer opportunities for sidewalk cafes and similar public areas that allows and support a seamless flow of pedestrian movement.
- Install bridges and crossings over natural and man-made barriers to offer a continuous pedestrian network.
- Install crossing at locations that minimize out of direction travel for the pedestrian.

SECURITY

Create an environment perception as being safe by the user.

- Develop a pedestrian environment that is appropriately lighted for its intended purpose and context. This may include overhead and ground level lighting. Indirect lighting should be used to illuminate salient features within the street environment, such as trees, walkways, canopies, and entryways.
- Minimize the conflicts between pedestrians and vehicles through designs that clearly separate the two.
- Seek to establish an environment that offers a sense of being “inhabited” by human activity. This can be done through building designs that place a great deal of visual attention on the street, using street level windows, balconies, and terraces.
- For mixed use developments use large windows, canopies, and integrated signage to add activity to enhance the pedestrian experience.



- Provide entrances, porches, canopies, decks, and seating along the street edge that offers weather protection, security, and/or safety.
- Ensure clear and direct “lines of sight” for pedestrians to increase their feeling of security. Minimize the use of tall shrubs, walls, berms, and other visual features which screen pedestrian views within their immediate environment.
- Use lighting features to identify and highlight key pedestrian facilities, elements, and corridors. These can be used at pedestrian intersections, pathways, sidewalks, and entrances to increase a sense of safety and security.
- Avoid elimination of sidewalks or placing sidewalks adjacent to travel lanes when arterials streets are widened.
- Develop physical buffers or edges along sidewalks, streets, and parking lots to properly define their boundaries.
- Avoid over-illuminating of pedestrian areas as this can create shadowy areas which may seem threatening to pedestrians.

VISUAL INTEREST AND AMENITIES

Offer visually appealing attractions and features.

- Ensure use of pedestrian scaled improvements that fit within the urban context of the area.
- Employ color, materials, and features forms that create an integrated environment for the pedestrian.
- Install attractive improvements including landscaping, vertical treatments, sidewalk and furnishings enhancing pedestrian character of the area.
- Incorporate public art and site details.
- Seek to reduce vehicle-pedestrian conflicts along sidewalks in residential areas by selective use of alleyways – cuts down on the number of places where cars might back out of a garage and have an accident with a pedestrian.
- Develop lighting strategies enhancing the physical appeal of the pedestrian environment by using: varied light spacing and heights compatible with the area; light poles integrating



pedestrian scaled features such as banners, plantings, etc.; selective deployment of luminaries to organize and unified appearance of pedestrian network.

- Use quality building materials and design techniques with an eye toward minimizing maintenance needs.
- Avoid (or prohibit) large surface parking lots at key pedestrian intersections.
- Create a continuous edge using a canopy of street trees on both sides of the street. Select tree species that provide shade, scale, and shelter for pedestrians.
- Further the emergence of attractive landscaping by establishing patterns of trees offering a formal visual linear edge along the sidewalk area, limiting the range of tree species to ensure a cohesive character to the street scape, use special landscaping themes, and install landscaping selectively to soften hard appearance of buildings and parking lots.
- Carefully select materials for retaining walls so they create an appropriate scale and rhythm of design. Terrace higher retaining walls and include landscaped setbacks.
- Add “urban open spaces” with distinctive shapes and features. Place at the intersection of two or more pedestrian routes.
- Promote windows and other openings to relieve blank walls, add visual interest, heighten the sense of security and provide for a human scale to building fronts.

DIRECTNESS

Provide and encourage direct pedestrian connections.

- Offer unimpaired visual connections between key pedestrian destinations. Align and locate buildings, roadways, and public spaces so pedestrians can see their destinations before arrive there.
- Provide clearly marked building entries visible by the pedestrian from the street. This may necessitate situating buildings in ways to make their entrances or intended uses clear to pedestrians.
- Consider reducing the City’s maximum allowable block length to enhance connectivity. Current standards allow blocks up to a quarter mile (i.e., 1,320 feet) in length, with

pedestrian connections only sought in subdivisions with blocks in excess of 1,000 feet.

- Deploy lighting and light fixtures to guide pedestrian along a direct pathway to their destination.
- Avoid barriers – major streets, buildings, or activity centers – that separate commercial developments from residential districts or transit stops.
- Locate buildings and building entrances to improve access to and use of pedestrian ways.
- Provide a direct and visible connection of sidewalks or pathways between blocks.
- Ensure appropriate width of sidewalks and street crossings to allow two people to comfortable walk side by side and one to pass. For example, sidewalks along arterials should be built to a minimum of six feet and along residential street to a minimum of five feet.
- Ensure direct pedestrian connections to transit stops, school, activity areas, and other facilities.
- Identify clear and direct pedestrian entrances from streets and sidewalks, not just from parking areas.
- Minimize and/or eliminate any physical obstructions impeding direct pedestrian access, such as walls, fences, or other such design elements.

STREET CROSSING

Create safe, comfortable and attractive street crossings.

- Provide appropriate design solutions for enhancing the safety and comfort in crossing arterial streets to be used where practical and feasible.
- Adopt standardized street crossing improvement standards for crosswalks, lighting, median refuges, corners, signs, signals, and landscaping.
- Continue to install crosswalks that are well marked and visible to vehicle drivers, fit and enhance the design context and character of the area, and provide safety of all age and ability groups.
- Construct street calming improvements at key pedestrian crossing locations.
- Continue program of using signals, signs and street markings for crossing points.

- Ensure street crossing are lit to reflect pedestrian need and usage.
- Continue to provide automatic pedestrian phases at high demand intersections and pedestrian buttons at lower demand locations.
- Install stop bars as appropriate and needed to the approach legs at signalized intersections.
- Continue to locate lighting, signal, and signage poles so as not to conflict with pedestrian safety.

Other Proposed Street Design Standards

In addition to and in combination with the recommended approaches mentioned above, additional modifications to the City pedestrian standards should include:

“Pedestrian Reviews” for New and Improved Streets

The number of traffic lanes a person is required to cross can significantly affect how a pedestrian perceives their safety and comfort in using the crossing. As city streets and intersections are widened in the future, the City should continue to carefully consider the needs of pedestrians in crossing these expanded facilities. This should occur as part of the design process, with appropriate actions taken to mitigate the negative impacts of wider streets on the pedestrian system. A “Pedestrian Review” should be completed as part of all major street intersection improvement projects to show how pedestrian concerns will be addressed. Some of the design features that may be considered include:

- Signal controls - Pedestrian activated signals or automatic walk signal phases
- Need for pedestrian median refuge or median cut through
- Crosswalk treatment
- Street lighting
- Mechanism for alerting driver of pedestrian crossing
- Line-of-sight triangle for pedestrian and drivers
- Maximum curb radii
- Bulbouts
- Stop bars

Traffic Calming to Selectively Reduce Speeding Vehicles

Vehicle speed can be a significant factor for pedestrians crossing a street. As future streets are planned or corridor improvements designed, consideration should be given to the selective deployment of traffic calming features. These features may involve targeted use of crosswalk treatments, signal timing, bulbouts, traffic circles, speed tables, chicanes, or narrowing travel lanes.

Crosswalk Treatments at Critical Use Points

Where there are large numbers of pedestrians or at other locations of critical concern, every effort should be made to balance the safety



and perceived comfort of the pedestrian with the vehicular traffic. Various treatments mentioned throughout this section can be utilized to enhance the security and performance of such a situation. These may include crosswalk enhancements (e.g., color, stenciling, pavement treatment), signal indicators, lighting, demand activated crossing

signals, countdown signal heads, median refuge areas, amenities, line-of-sight distance considerations, and right turn on red mitigation.

Bulbouts and Curb Extensions

Bulbouts and curb extensions are ways to calm traffic and turning movements while narrowing the street width needing to be crossed by the pedestrian. They offer several advantages: provide an entryway statement to the motorist that pedestrians are likely to be present at this location; enhance



the visibility of the pedestrian to see and be seen; moderate traffic flow through the intersection; reduce time required by pedestrian to cross the intersection; and change the character of the intersection from a strictly automobile-dominated facility to a shared mode design.

Activity Time Line and Responsibility:

PHASES I

The evolution of a cohesive and integrated set of “Pedestrian Standards” for the City of Lincoln will likely take some time to complete. Preparation of these standards will involve a careful review of existing and potential planning and engineering elements. A review process involving City staff, local developers and engineering firms, and neighborhood and community groups should be considered.

As the Pedestrian Standards will form the basis for implementation much of this Plan, the task of crafting these Standards should receive priority. A working set of standards should be targeted for completion within twelve to eighteen months from the adoption of this Plan’s recommendations.

The responsibility for coordinating the development a set of draft Pedestrian Standards should rest with the Multi-Modal Coordinator, assuming that such a position is created in the near term. Engineering and planning staff from the City’s Public Works and Utilities Department must be closely involved in the formulating of any such standards. As appropriate, other departments to be potential participants include City-County Planning, Mayor’s Office, Building and Safety, Urban Development, Law, and Health.

Activity Resource Needs:

No additional resources are anticipated to be needed at this time for completing the review and modification of the City’s current pedestrian standards. The analysis can be undertaken using existing City staff. Should the managers of this study determine additional outside specialized assistance is necessary and/or desirable, applicable budget funds would need to be identified.

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